

WE CLAIM:

1. A packaged mirror assembly, comprising:  
a mirror element having a frame, a mirror surface, and a plurality of hinges;

a plurality of drive elements, for controlling deflection of the mirror  
5 element responsive to electrical signals; and

a molded plastic body encasing the plurality of drive elements, and to  
which the mirror element is attached, the plurality of drive elements having electrical  
connections through the plastic body.

2. The assembly of claim 1, wherein the mirror element is formed of a single  
piece of crystalline material.

3. The assembly of claim 1, further comprising at least one permanent magnet  
attached to the mirror element;

and wherein the plurality of drive elements comprises:

a plurality of coil drivers, encased by the molded plastic body to be in  
5 proximity to the at least one permanent magnet, for orienting the mirror element  
responsive to electrical signals applied to the electrical connections.

4. The assembly of claim 1, further comprising:

a transparent window, attached to the molded plastic body in such a  
manner that the mirror element is located within a cavity formed by the molded body  
and the window.

5. The assembly of claim 4, wherein the molded body has an inner shelf to which the mirror element is attached;

and wherein the molded body has an outer shelf to which the window is attached.

6. The assembly of claim 5, wherein the molded body has a plurality of stops at an upper surface, for limiting the rotation of the mirror element.

7. The assembly of claim 6, wherein at least one of the stops are impacted by one of the magnets at a limiting position of the mirror element;

5 and wherein the limiting position of the mirror element is reached without the mirror impacting the transparent window.

8. The assembly of claim 1, wherein the molded body has an inner shelf to which the mirror element is attached;

10 and wherein the molded body has a plurality of stops at an upper surface, for limiting the rotation of the mirror element

9. The assembly of claim 3, further comprising:

a circuit board, to which the plurality of coil drivers is attached; and

a plurality of pins attached to the circuit board, extending through the molded body, and electrically connected to the plurality of coil drivers.

10. The assembly of claim 1, further comprising:

a lead frame to which the plurality of drive elements is attached, the lead frame having a plurality of leads extending through the molded body, said leads electrically connected to the plurality of drive elements.

11. The assembly of claim 10, wherein the leads are of the surface-mount type.

12. The assembly of claim 10, wherein the leads are of the through-hole type.

13. The assembly of claim 1, further comprising:

a resistance heater, encased by the molded plastic body.

14. The assembly of claim 1, wherein the plurality of drive elements comprise electrostatic plates, for applying electrostatic forces to corresponding portions of the mirror element.

15. A method of packaging a mirror assembly, comprising the steps of:

physically and electrically attaching a plurality of drive elements to a member having a plurality of external connectors;

molding a plastic body around said plurality of coil drivers and at least a portion of the member, the plastic body having a first shelf; and

attaching, to the first shelf of the plastic body, a mirror element formed of a single piece of crystalline material, the mirror element having a frame, a mirror surface, and a plurality of hinges.

16. The method of claim 15, wherein the plurality of drive elements are coil drivers;

and further comprising:

attaching at least one permanent magnet to the mirror element.

17. The method of claim 15, wherein the plastic body also has a second shelf; and further comprising the step of:

15                    attaching a transparent window to the second shelf of the plastic body, so  
that the mirror element is disposed between the window and the plastic body.

18. The method of claim 15, wherein the plastic body has a plurality of stops at  
an upper surface, for limiting the rotation of the mirror element.

19. The method of claim 15, wherein the molding step comprises:

5                    placing the member into a mold, the mold having surfaces defining the  
first and second shelves; and  
                     injecting plastic into the mold to form the plastic body.

20. The method of claim 19, wherein the member is a circuit board having pins  
attached thereto;

                     and wherein the injecting step comprises casting plastic into the mold to  
surround the circuit board.

21. The method of claim 15, wherein the member is a lead frame having a  
plurality of leads;

                     and wherein the molding step comprises:

5                    placing the lead frame into a mold cavity having upper and lower  
halves, the upper half having surfaces defining the first shelf; and  
                     molding the plastic body to surround at least a portion of the lead  
frame.

22. The method of claim 15, wherein the plurality of drive elements comprises a  
plurality of electrostatic plates, and wherein the plurality of electrical connectors  
comprises a plurality of external leads, each attached to a corresponding one of the  
plurality of electrostatic plates.

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